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**[Billing Code 4140-01-P]**

## **DEPARTMENT OF HEALTH AND HUMAN SERVICES**

### **National Institutes of Health**

**Prospective Grant of Exclusive License for:** Silica-coated fluorescent nanodiamond probes and devices and systems for imaging fluorescent nanodiamonds.

**AGENCY:** National Institutes of Health, HHS.

**ACTION:** Notice.

**SUMMARY:** This is notice, in accordance with 35 U.S.C. 209 and 37 CFR 404, that the National Institutes of Health (NIH), Department of Health and Human Services, is contemplating the grant of an exclusive worldwide license to practice the inventions embodied in: HHS Ref. No. E-175-2012/0 “Method for Preparing Silica-Coated Nanodiamonds;” US Provisional Patent Application 61/672,996 filed July 18, 2012; International Patent Application PCT/US2013/050779 filed July 17, 2013, and HHS Ref. No. E-261-2012 “Background-Free Imaging By Selective Modulation of Nanodiamond Fluorescence Using A Magnetic Field;” US Provisional Patent Application 61/711,702 filed October 9, 2012 and U.S. Non-Provisional Patent Application 14/049,096 filed October 8, 2013 to Bikanta Corporation, a Delaware Corporation, having a principal place of business at 6694 Cedar Boulevard, Newark CA 94560.

The United States of America is an assignee of the patent rights pertaining to these inventions.

The contemplated exclusive license may be in fields of use directed to:

- a) Devices and systems for imaging magnetically-modulated nanodiamond probes, and
- b) Sales of silica-coated nanodiamond probes for non-clinical uses for a term not to exceed five (5) years.

**DATES:** Only written comments and/or applications for a license that are received by the NIH Office of Technology Transfer on or before [INSERT DATE 30 DAYS FROM DATE OF PUBLICATION OF NOTICE IN THE FEDERAL REGISTER] will be considered.

**ADDRESSES:** Requests for a copy of the patent application, inquiries, comments and other materials relating to the contemplated license should be directed to: Michael Shmilovich, Esq, CLP, Senior Licensing and Patent Manager, Office of Technology Transfer, National Institutes of Health, 6011 Executive Boulevard, Suite 325, Rockville, MD 20852-3804; Telephone: (301) 435-5019; Facsimile: (301) 402-0220; E-mail: [shmilovm@mail.nih.gov](mailto:shmilovm@mail.nih.gov). A signed confidential disclosure agreement may be required to receive copies of the patent application assuming it has not already been published under either the publication rules of either the U.S. Patent and Trademark Office or the World Intellectual Property Organization.

**SUPPLEMENTARY INFORMATION:**

*E-175-2012/0*

The invention pertains to a robust and easily implemented method of synthesizing silica-coated nanodiamonds for imaging and therapeutic applications. The method generally includes coating nanodiamonds with a silica precursor, e.g., tetraethylorthosilicate (TEOS), inside liposomes. The liposomes are then removed to yield a final product that is stable, monodisperse, and easy to functionalize.

*E-261-2012/0*

The technology pertains to a method of imaging a biological specimen (e.g., human tissue) using fluorescent nanodiamonds implanted into the subject of interest, applying a magnetic field to said subject and producing a resultant image by a net juxtaposition of a second acquired image. This process suppresses the background and permits selective imaging of the nanodiamonds in the presence of background fluorescence that exceeds the signal from the nanodiamonds. Another aspect of the invention provides an imaging method in which the resulting image is acquired by applying time-varying magnetic fields using one or more secondary image averaged against the first. The technique relies on imposing a small (~100 Gauss) magnetic field on the sample of interest during optical imaging combined with post-processing of the acquired images to remove the background. This technology can readily be added onto any commercial optical imaging platform to achieve background-free images of the nanodiamonds in a biological specimen.

The prospective exclusive license will be royalty-bearing and comply with the terms and conditions of 35 U.S.C. 209 and 37 CFR 404. The prospective exclusive license may be granted unless, within thirty (30) days from the date of this published notice, NIH receives written evidence and argument that establishes that the grant of the license would not be consistent with the requirements of 35 U.S.C. 209 and 37 CFR 404.

Properly filed competing applications for a license filed in response to this notice will be treated as objections to the contemplated license. Comments and objections submitted in response to this notice will not be made available for public inspection, and, to the extent permitted by law, will not be released under the Freedom of Information Act, 5 U.S.C. 552.

Dated: June 11, 2014.

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Richard U. Rodriguez,  
Director,  
Division of Technology Development and Transfer,  
Office of Technology Transfer,  
National Institutes of Health.

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